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PROMOTING SUSTAINABLE ENERGY: DOES INSTITUTIONAL ENTREPRENEURSHIP HELP?

1. Introduction

In spite of the urgency of climate change and the rapid pace of technological change, change in the dominant logic of the energy sector is slow. For example, coal, natural gas and oil are still the largest energy sources in IEA countries, and energy efficiency has made only small inroads into total primary energy consumption (IEA 2018). While technological path dependencies are well known, recent research has highlighted the path dependence of institutions that further slow down socio-technical change (Unruh 2000; Araújo 2014). New energy technologies have achieved rapid technological progress and cost reductions, yet policies and regulations set initially to control and improve the functioning of the energy system have become hard to change due to established interests and institutionalized rules and practices (Kern and Smith, 2008 Geels 2014; Kuzemko et al., 2016; Winskel 2018). Institutional rules, upheld by industry incumbents, include expectations for affordable and uninterrupted energy deliveries relying on economies of scale using non-renewable, dense energy resources.

Previous research on energy sector change has drawn, for example, on new institutionalist concepts of policy change¹ (Kuzemko et al., 2016) and historical institutionalism (Lockwood et al. 2017; Rodríguez-Morales 2018). We focus on institutional change in the energy field, including both policy and market actors (Zietsma et al. 2017), where institutional rules are enforced by standards, professional practices, the natural monopolies of distribution networks, and financial barriers to entry. The energy field has a distinct core/periphery structure, with new entrants vying for market share. New entrants have recently benefited from rapid developments in digitalization, which have also enabled the entry of non-energy companies, e.g. ICT and building services, into the field (Erlinhagen and Markard 2012). This has engendered some institutional change: for example, new rules for grid operators and suppliers regarding smart metering and prosumers; yet such change has lagged behind technological development due to resistance by incumbents (Kungl 2015; Schmid 2016). New entrants are supported by social movements and political debates (Kuzemko 2014), giving the state and governmental organizations a bridging role (Zietsma et al. 2017). While institutional change can derive from new entrants, NGOs, think tanks or academia, Kivimaa (2014) and Polzin et al. (2016) have shown

¹ The literature on institutional entrepreneurship has several links to literatures on policy change, though it envisages institutional change in the broader institutional field (Zietsma et al. 2017), encompassing both markets and policies, as well as both formal and informal rules. Kingdon's (1984) concepts of 'policy entrepreneurs' and 'multiple streams' are effectively similar to concepts in institutional entrepreneurship. Several studies of institutional entrepreneurship focus on policy change from an institutional-organizational perspective (Perkmann and Spicer 2007; Wijen and Ansari 2007; Buhr 2012).

that government-affiliated organisations can play an important role in bridging institutional innovation.

Institutionalist analysis struggles to conceptualize change, since agents are viewed as institutionally embedded, i.e., conditioned to follow rules. *Institutional entrepreneurship* is body of research focusing on institutionally embedded agents who “break with existing rules and practices associated with the dominant institutional logics and institutionalize the alternative rules, practices or logics they are championing” (Garud et al. 2007, p. 962). In social theory, analyses of how institutional entrepreneurs work have cast light on fundamental issues of structure and agency (Lounsbury et al. 2003; Fligstein and McAdam 2012). Yet recent research on institutional entrepreneurship has turned to emphasizing its *practical value*: understanding how institutional entrepreneurship works might enable potential change makers to surmount the constraints of their institutional environment (Dover and Lawrence 2010) and find solutions to ‘grand challenges’ (Ferraro et al. 2015) like energy transitions (Andrews-Speed 2018). Given that there are several relevant bodies of social science literature that offer practical advice for creating a better energy system (see Sovacool 2014), it is valid to question the additional value of the institutional entrepreneurship concept.

Within the energy field, Jolly et al. (2016) have explored how various types of institutional entrepreneurship have promoted wind power differently in India and Finland. Buhr (2012) investigated how timely social mobilization aligned with problem-awareness, policy and political streams to create the conditions for including aviation within the European Emissions Trading Scheme. Yet the power of institutional entrepreneurs has also been called into question by authors emphasizing contradictory forces, unintended consequences and failures (Lawrence et al. 2011; Fuenfschilling and Truffer, 2016) – i.e., the limited control that individuals have when attempting to change entire sectors and the rules that govern them. Limits to control are compounded by the importance of timing in the alignment of internal and external conditions for change (Fligstein and McAdam 2012; Buhr 2012) – suggesting that hindsight analyses of institutional entrepreneurship might be accounts more of luck than of skill. There are, thus, genuine knowledge gaps concerning whether the institutional entrepreneurship literature can deliver relevant and actionable management advice for sustainable energy practitioners.

The present study aims to explore the practical value of the institutional entrepreneurship literature through collaborative inquiry (van de Ven and Johnson 2006). Our collaborative inquiry engages with government-affiliated organizations that have been trying to create alternative, more sustainable institutions in the energy field for distributed renewable energy and energy efficiency in Finland, a country where strong institutions and close elites have governed the energy sector for decades (Ruostetsaari 2010). Organizations working in this sector, in Finland and elsewhere, still tend to follow

a techno-economic rationale (Lutzenhiser 2014). We have attempted to engage people from these organizations in an exploration of the more political aspects of their work, drawing on propositions from the institutional entrepreneurship literature. In order to engage the organizations and their work in this exploration, and to learn whether and how they could benefit from it, we employ a mixed-methods collaborative inquiry process involving archival analysis, group discussions and longitudinal interviews. Our research questions are: (1) Do lessons from the institutional entrepreneurship literature help sustainable energy practitioners understand the political aspects of their work? And (2) given the contingency of institutional entrepreneurship, can people consistently organize to capture opportunities for institutional change?

The following section identifies selected insights for sustainable energy practitioners from the institutional entrepreneurship literature. We then present our collaborative inquiry context and methods. We present our findings and analysis in the form of the stories of the organizations involved in our study, how they reinterpreted their work in the light institutional entrepreneurship concepts, and how they might organize more effectively for change. These are followed by a discussion of the findings and the limitations of the study, and conclusions.

2. Institutional entrepreneurs combine grand strategy with everyday tactics

Institutional entrepreneurs can include, for example, businesses creating new industrial models, NGOs (Lounsbury et al. 2003; Levy et al. 2010) or public sector organizations breaking out of bureaucratic iron cages (Wijen and Ansari 2012). Institutional entrepreneurship is seen as a form of collective action (van de Ven and Hargreave 2004; Jolly et al. 2016), employing social mobilization to align diverse interests and challenge incumbent field rules (Lounsbury 2003). Yet there is limited in-depth analysis of how collective institutional entrepreneurs might systematically *organize their work* vis-à-vis temporal opportunities *on an ongoing basis*, especially from a challenger position (Levy and Scully 2007).

The concept of *institutional work* extends beyond a heroic rendition of institutional entrepreneurship, where the focus is often on dramatic success stories. It refers to the *practices* of individual and collective actors aimed at creating, maintaining, and disrupting institutions (Lawrence et al. 2011) – it thus highlights processes rather than agents. The concept also problematizes how and with whom individuals gain their (institutionally embedded) agency, which is highly relevant for our problem of organizing for institutional change. While institutional work and institutional entrepreneurship emphasize different understandings of agency (Lawrence et al. 2011), both concepts are potentially

valuable for practitioners, with the former relevant for practices and processes, and the latter highlighting purposive action in opposition to existing institutional arrangements and the role of opportunity for agency.

The literatures on institutional entrepreneurship and institutional work are mostly oriented toward developing social theory on institutional change. In the following review, we focus on the more pragmatic implications of this literature, i.e., propositions and empirical observations about characteristics of successful institutional change that might be relevant for practicing institutional entrepreneurs in their quest for more sustainable energy. Our review aims to identify propositions that most explicitly challenge technocratic notions of institutional change, such as the belief that the problem of energy efficiency can be resolved through rational analysis and control alone (Lutzenhiser 2014), by suggesting that institutional entrepreneurs align several different types of work and resources, as elaborated in the sections below.

1) Successful institutional entrepreneurs engage in technical, cultural and political work when creating new institutions. Lawrence and Suddaby (2006) characterized three types of work in the creation of new institutions. *Political work* entails advocacy through social suasion, defining boundaries between ‘insiders’ and ‘outsiders’ and vesting interested actors with certain roles and rights. For example, Wijen and Ansari (2007) have shown how various types of political work were used in the Kyoto climate negotiations: the creation of blocs to reduce complexity, the utilization of bandwagons to get new signatories abroad, the sanctioning via media surveillance, and ultimately, the use of bargaining to gain Russia on board. *Technical work* involves “theorization” of the institutional form, the creation of links between novel and institutionalized practices, as well as the education of others to use these new models (Perkmann and Spicer 2008). For example, Jolly et al. (2016) show how increased wind power diffusion requires a conceptual reconfiguration of the power grid to accommodate for intermittent and distributed generation. *Cultural work* focuses on institutional diffusion (Hargrave and van de Ven 2006) and the creation of legitimacy by framing the new institutional arrangement so as to appeal to wider cultural values in the context (Perkmann and Spicer 2008). For example, Jolly et al. (2016) have shown how civil society groups have campaigned for wind energy mainly on environmental grounds in Finland, whereas Indian civil society groups have stressed economic and societal values, such as impacts on ordinary consumers and rural populations.

2) The creation of new institutions often also depends on the disruption of old ones. The importance of disruption or destabilization of existing institutions has been highlighted by several authors (Oliver 1991; Lawrence and Suddaby 2006; Kivimaa and Kern 2016), yet Fuenfschilling and Truffer (2016) claim it is the least studied form of institutional work. Path dependency is well acknowledged in the study of

energy systems (Unruh 2000; Lovio et al. 2011; Lockwood et al., 2017). The complex co-evolution of technologies and institutions involves, for example, unions and industry associations that emerge to represent energy professionals servicing technological system, and formal government institutions to regulate it, with a tendency to persist through mechanisms of positive feedback (Unruh, 2000). Governments can use positive reinforcement mechanisms associated with path dependency either to support existing fossil fuel energy based institutions or to create new institutions around clean energy (Aklın and Urpeläinen, 2013). Disruptive entrepreneurship undermines the mechanisms causing compliance with social institutions, i.e., undermining core beliefs, disassociating moral foundations, or disconnecting sanctions through regulatory change (Lawrence and Suddaby 2006). Institutional entrepreneurs can engage in such disruption, or seek times and places where such disruption is under way (Dorado 2005). In the case of the global energy system, the latter is a more likely avenue, though agents can attempt to amplify disruptive changes.

3) Institutional work requires social skill, i.e., the ability to use empathy to select the most fitting strategies and tactics to mobilize allies and deal with opponents in each situation. *Social skill* is highlighted in the institutional entrepreneurship literature as a way for ‘challengers’ to leverage scarce and critical resources (Maguire et al. 2004; Levy and Scully 2007; Battiliana et al. 2009), and authors draw heavily here on Fligstein’s (1997; 2008) work. Social skill is the ability to read people and environments, interpret the actions of others in the field, and select appropriate tactics for attaining co-operation (Fligstein 2008), such as brokering and maintaining goallessness, or aggregating interests, or even engaging in agenda setting. In the case of change in *a structured field like the energy sector*, challengers need to select their tactics for dealing with powerful incumbent groups (Fligstein 1997; Fligstein 2008). Here, institutional entrepreneurs rely on skilled outmaneuvering of incumbents, combined with “hegemonic accommodation”, i.e., the compromises required to position new institutional arrangements within entrenched institutions (Levy and Scully 2010). Fligstein (1997) outlines alternative tactics for dealing with incumbents, such as taking what the system gives, strategic bargaining, acting as a disinterested broker, maintaining ambiguity and strategically hiding agendas, plotting multiple courses of action, and networking to other challengers.

4) Successful institutional entrepreneurship also depends on the opportunity structure of the institutional environment (field) and institutional entrepreneurs’ capabilities in interpreting them. Objective and perceived structures of institutional fields offer different opportunities for change. Industrial fields with a strong field infrastructure (such as the energy system) tend to follow a single dominant logic, and hence are likely to follow a pathway of incremental change (Dorado 2006; Zietsma et al. 2017), though technological change may at a certain point reconfigure the entire structure of the field (Zietsma et al. 2017). In contrast, some fields may exhibit a plurality of institutional logics, which

makes them amenable to leveraging by politically skilled institutional entrepreneurs (Dorado 2006; Zietsma et al. 2017). In between these two extremes are ambiguous fields, where multiple institutional referents vie for authority (Dorado 2006; Zietsma et al. 2017). Since fields are structured by rules, exchange and obdurate infrastructures, but also by meanings and sensemaking by participants (Suddaby 2010; Zietsma et al. 2017), some actors may perceive opportunities even in highly structured or ambiguous fields. For example, when institutional logics are ambiguous (e.g., when new industries like the ICT sector and new logics like climate concern start to invade the energy field), institutional entrepreneurs can create new institutional arrangements through “convening” participants from diverse institutional fields into a collective sensemaking process (Dorado 2006).

The opportunity structures of institutional fields have a temporal structure, as well. Often, change is precipitated by some kind of *disruption or crisis* in the existing institutional arrangements (Hoffman 1999; Fligstein 2008; Battiliana et al. 2009). Yet opportunities for institutional entrepreneurship can also derive from gradually evolving socio-economic changes, such as *contradictions and tensions within existing institutions* (Beckert 2010). In globally linked technological systems like the energy system, disruptions like the German decision to phase out nuclear power and gradual processes like the development of PV manufacturing capabilities in China can create chains of events that start to create tensions within the system (such as the steep decline in PV module prices). Prior research in the energy field also suggests that opportunities might not only be created by crises, but also by the maturation of supportive technologies (such as ICTs and digitalization), creating industry convergence (Erlinghagen and Markard 2012; Canzler et al. 2017).

5) Timing is critical in capturing opportunities for institutional change. There is an established literature on the role of timing and temporal events in the institutional and policy change literatures (Kingdon 1984; Birkland 1998; Hardy and McGuire 2010). Institutional entrepreneurs need to be organized for long enough for auspicious temporal conditions to coincide: For example, unbeknownst to the change agents, changes in higher-order fields can destabilize the focal field where change is sought, thus enabling change that was previously impossible (Fligstein and McAdam 2012). Buhr (2012) describes how a window of opportunity opened for emissions trading in the aviation industry when three streams (problem, policy and political, see Kingdon 1984) were favorable at the same time, and a collective of institutional entrepreneurs was able to gear their activities to these temporal conditions. While several streams of literature have explored the impacts of *focusing* (Birkland 1998) and *field-configuring* (Hardy and McGuire 2010) events, there is less research on whether institutional entrepreneurs could systematically capture the opportunities created by such events (Müller-Seitz and Schüßler 2013). This is particularly the case in the energy field, where global and national

developments occur at different paces, and change is punctuated, complex and irreducible to a single cause (Sovacool 2016).

6) From an organizational perspective, the above characteristics of institutional entrepreneurship suggest a mode of action where grand strategizing and everyday tactics are aligned. In a rare discussion on how people organize for institutional entrepreneurship, Levy and Scully (2007) have drawn on Gramsci's (1957/2011) *Modern Prince* to characterize institutional entrepreneurship as employing a "strategic face of power" by merging grand strategy with organizational agility: skillfully deploying scarce resources, analyzing field conditions, creating alliances and responding to changing conditions. From this perspective, organizing for institutional entrepreneurship draws together practices and functions that often are separated in conventional bureaucracies (Canzler et al. 2017).

3. Research Context and Methods

National energy systems are usually treated as their own fields (Hess 2013; Jolly et al 2016) but they are also interconnected via transnational ownership and regulation, transmission grids, and shared professional standards, beliefs and practices. Within internationally interconnected energy fields, institutional entrepreneurship occurs in several places: in companies producing sustainable energy products and services, in established industries, in NGOs or, importantly, among think tanks, academia and consultancies. We chose to focus on government-affiliated organizations with a mandate to promote sustainable energy, who often translate international developments into the local context. We considered they could benefit the most from a reconceptualization of their work in terms of institutional entrepreneurship, considering the history of government and its affiliates as classic bureaucracies, and recent reforms of the public sector (Andrews-Speed 2016).

We locate our empirical work in Finland, a country whose historical industrial structure is dominated by heavy industry. As a result, the energy field has been dominated by a close elite: a cohesive group consisting of the main political parties, the Ministry of Employment and Economy, energy companies, and large energy-intensive businesses (Ruostetsaari, 2010a). Elite members come from the same schools, share the same ideals, and throughout history, have created common field-level rules, which emphasize security of supply, affordable energy, an engineering ethic, and the importance of economies of scale (Ruostetsaari, 2010; Salo, 2014).

The incumbent institutional and industrial structure has made the introduction of distributed, small-scale energy production extremely difficult, since policy attention has traditionally been devoted to providing dense energy sources for industry. As a result, Finland was quite late to introduce a feed-in-

tariff for some forms of renewables in 2011, and even then, small installations (<100 kVa) were excluded. Finland has been the only country in Europe that has offered no dedicated support for domestic solar panel installations. The incumbent institutional and industrial structure has also hindered non-industrial energy efficiency, since heavy industry has relatively high energy costs and hence has devoted historically much attention to energy efficiency, resulting in belated attention to other than core industrial processes, where significant potential was still identified by Lund (2007).

Our study was developed in collaboration with the two leading organizations in the field in Finland, Sitra and Motiva, with which the authors have collaborated for decades, and which have been shown to work from outside the incumbent energy elite to challenge existing institutional arrangements and introduce new ones (*reference removed for review*).

Sitra is a foundation set up by the Finnish government in 1967 originally to renew the country's industrial structure. Sitra's activities are mandated in law, its operations overseen by the Parliament. It is independent of the state budget due to funding via the returns on an endowment capital. With a staff of 100, Sitra engages in a variety of domains, such as healthcare, energy and sustainable economy, through projects with a bounded lifespan. Sitra has been described as an organization with an explicit aim to disrupt existing institutional structures and create new ones (*reference removed for review*). Since the organization works on fixed-term projects with ad-hoc teams, Sitra's interest in collaborating with our project was to develop more systematic ways to learn as an organization from success and failure in fixed-term projects.

Motiva was established by the Finnish government as a project run by a handful of entrepreneurial energy engineers in 1993, which has played a key role in creating new institutional arrangements for energy efficiency (Khan 2006). Since 2000, Motiva has been a limited liability company, which is the main implementer of energy efficiency policy in Finland. Its mission is defined by the government, but also by the energy engineering expertise concentrated in the company and its 57 employees. Today, Motiva offers services to the central government, but increasingly markets its services to local government, businesses and consumers in energy efficiency, renewable energy and materials efficiency solutions. Motiva's interest in collaborating in our project was to better leverage the company's original capabilities in mobilizing other organizations on its currently much larger scale of operations than in its early days.

These organizations work for institutional change— from different but converging directions – within an energy field that has been characterized as elitist and highly stable (Ruostetsaari 2010). Within this context, energy experts – including proponents of energy efficiency and renewable energy – nonetheless still tend to build their arguments on the institutionally prescribed notions of rational choice and technical potential, while downplaying the social and political aspects of change.

The aim of this study is not to compare the processes found in the two organizations. Rather, we use these two different collaborative inquiry processes to identify interpretations that were common to both organizations, as well as ideas for how to organize for institutional change that arise from two different organizational contexts within the same institutional field.

3.1 Research process: joint reflection on selected projects

In order to see how the concepts from the institutional entrepreneurship literature enable organizations to reflect on their own ways of working to accomplish change, we initiated a process for joint exploration (van de Ven and Johnson 2006). This process aimed to enable a critical inquiry of whether these practitioners felt they needed the institutional entrepreneurship literature in order to understand the political dimensions of their work, whether they were interested in learning more about the political nature of their work, and whether they felt they could improve the effectiveness of their political work.

Drawing on Shani et al. (2012) and Reason and Bradbury (2012), we organized an iterative reflection process of two and a half years consisting of the following steps (see figure 1):

- 1) Initial interview with the senior managers in charge of the energy systems change process. In the case of Motiva, this was the CEO accompanied by the CIO, in the case of Sitra (which has several focal areas), it was the director of the Energy Programme.
- 2) Initial learning histories based on interviews and documents (project materials and reports, self-evaluations, participant lists).
- 3) Group discussion for key staff members involved in the change initiative.
- 4) Reflective follow-up interviews with participants to gain their views on lessons learned.

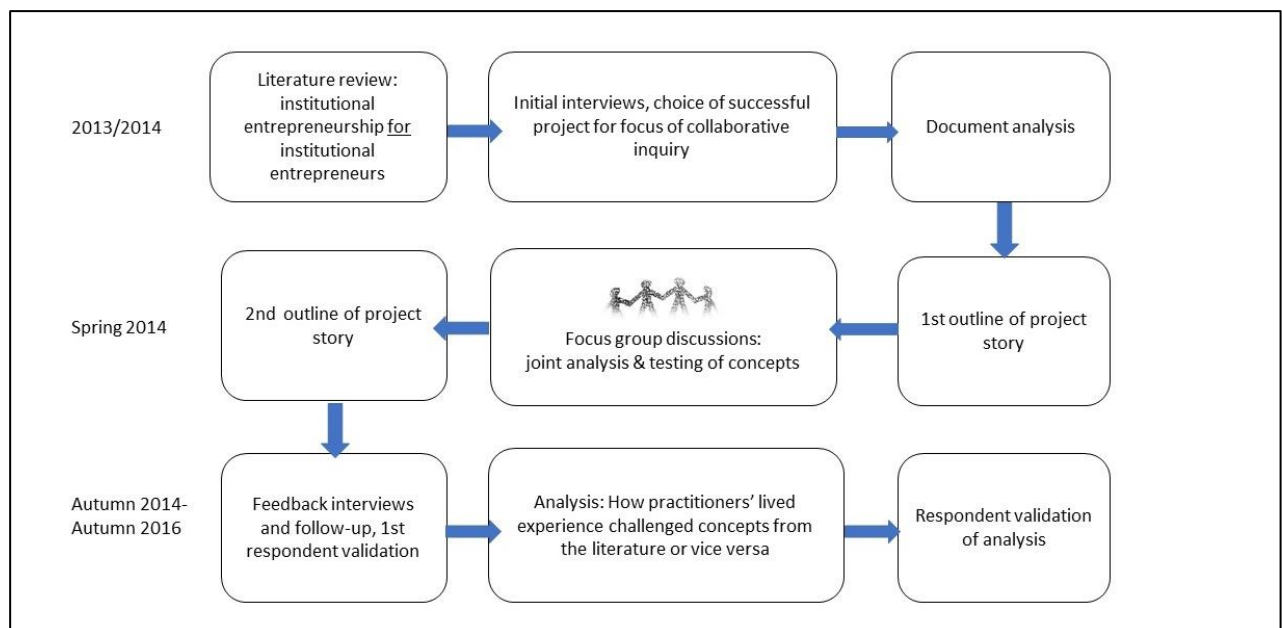


Figure 1. Flow chart and timeline of research process

To contextualize, we used a previously collected dataset on the same organizations offering a comprehensive view of the organizations' programs, their ways of working, their position vis-à-vis key institutions and other actors in their field, as well as external stakeholders' views of their achievements (*reference removed for review*), which complemented our own insights from several years of collaboration. The dataset consisted of 10 staff interviews, six interviews with stakeholders, 15 publications (e.g. project reports) and 77 project websites/news releases. These focused, in particular, on the extent to and ways in which these organizations could be seen as achieving systemic (institutional) change in the energy field.

The purpose of the initial interview (1) was to reach an agreement on the collaborative inquiry process and its aims and to select a particular change initiative for joint investigation and reflection. We decided to focus on a "success story" in order to develop commitment to the study. In the case of Motiva, the selected case was one of its first assignments, the Energy Audit Programme, running since 1993, from which the organization wanted to learn for its new Materials Efficiency Audit Programme. In the case of Sitra, a recent programme called Self-Produced Energy (2011-2013) was chosen, which had accomplished some small but spectacular inroads into the incumbent energy system. It was agreed that the organizations would allocate about 20 person-hours to the joint investigation process². In the

² In fact, in the end, they probably used somewhat more, since the extent of follow-up interviews and reviewing the 'stories' and the final manuscript were not clearly envisaged at this point.

initial interview, we also identified the basics of the selected change process (context, goal, timeline, success indicators, participants) and relevant documents.

On the basis of this, we wrote an initial “story” (2) containing the bare bones and timeline of the change project for further discussion and revision in the group discussion (this served as our first operationalization of the institutional entrepreneurship concepts, and is reflected in a more elaborated form in the stories of the institutional entrepreneurs presented in section 4.1).

The aim of the group discussion (3) was to engage in joint reflection on the “story” of the entrepreneurial project, its successes and shortcomings, the resources and strategies used in the process, and the (organizational) environmental conditions enabling or hindering the change process. We then gave a short presentation introducing key concepts and empirical examples from the institutional entrepreneurship literature (Annex 1). This was followed by joint reflection on whether these concepts and examples are helpful for abstracting lessons from the organization’s lived experience (our second operationalization of the institutional entrepreneurship concepts, reflected in the analysis presented in sections 4.2 and 4.3). The format of group discussion (Kitzinger and Barbour 1999) was selected because it enables deliberation by individuals with diverse perspectives. We also deemed a group discussion more helpful for the organizations themselves, though as a drawback, perhaps some individual insights were lost (Kitzinger and Barbour 1999), some of which came up in later interviews. The group discussion organized in Sitra involved five participants from the Self-Produced Energy project, including the director of the Energy Programme. In Motiva also, five people were involved – three veterans of the Energy Audit Programme, a younger expert working to establish a Materials Efficiency Programme, and the CEO. The focus group discussions were recorded and transcribed.

Reflection on lessons learned from the process was conducted in sets of follow-up interviews (4) (Annex 1). The interviews aimed to identify the value of (a) the joint reflection process, (b) the use of concepts from the institutional entrepreneurship literature (including reflections on issues debated in the group discussion), as well as (c) how the organizations might use the analysis in further work. First, the senior managers and one other participant in both groups were interviewed eight months after the group discussion (face-to-face or by telephone) to discover what they had retained from the discussion and what they plans they had for their organization. Next, the same senior managers and other participants were interviewed about two years after the discussions to capture lasting impressions and experiences in putting the concepts into practice (see Annex 1). The interviews were recorded where possible and transcribed; when not possible, careful notes were made. Table 1 outlines the number and type of participants engaged in different parts of the study.

Table 1. Data collection and participants at different stages of the collaborative inquiry

Data collection stage	Number of participants	Duration	Function in organization
Initial interview	2 (Motiva) 1 (Sitra)	1-2 h	CEO + senior expert Program director
Focus group discussions	5 (Motiva) 5 (Sitra)	3 h	CEO, 3 senior experts and one junior expert Program director, program manager, 3 program experts
Follow-up interviews (8 months after)	2 (Motiva) 2 (Sitra)	1 h	CEO + one senior expert (due to retire) Program director and senior expert
Long-term follow-up (2 years after)*	3 (Motiva) 3 (Sitra)	1-1.5 h	CEO + 2 senior experts Program director + 3 program experts

* the ideal would have been to interview all focus group participants two years after the interview, but several had left the organization due to other jobs/retirement, and some had moved to different positions.

3.2 Analysis

We analysed the data in three stages, partly overlapping with data generation. First, on the basis of the available documents, an overview report of the change process under study was developed using categories perceived as being recognizable to the organizations: context, goals, timeline of events, achievements, ways and means of working, and stakeholders and networks involved. Deductive elements from the literature guided our attention in this process, but we operationalized key institutional change concepts using “emic” expressions (our first operationalization). This report was then revised based on the transcripts of the group discussions to produce narratives of the change process. These are composite narratives of the experiences of different people, where participants in the focus group discussions did part of the composition through sensemaking and joint reflection (Weick 1995), while we as external authors added chronologization, localization, focalization and verbalization (see O’Neill 1996) by organizing the focus group material and combining it with reports and documents from the projects.

In our inductive analysis of the usefulness of the concepts from the institutional entrepreneurship literature, we drew on the transcripts of the group discussion and transcripts or detailed notes from the feedback interviews. Following Van de Ven and Johnson (2006), we used a dialectical process of arbitrage to juxtapose practitioner viewpoints with propositions from the literature. We compared and categorized the data in terms of which concepts engendered debate, agreement, criticism or elaboration to produce our second operationalization of the change process (figure 2). Through this process, we compared the elements of the practitioner narratives to the concepts from the institutional entrepreneurship literature, and examined where the concepts fit and where there were potential sources of tension. This entailed collaborative analysis, mutual criticism and several rounds

of revision among the co-authors. As an example, we explored the concept of social skill: which events and excerpts from the interview reflected social skill and recognition of it within the organization, whether the participants' understanding of it was similar to that of Fligstein and McAdams' (2012), and what social skill might entail in the energy field at different points in time and in closer or more distant communities of participants. This helped us to both reinterpret the stories of the participants and critically interrogate the concept of social skill.

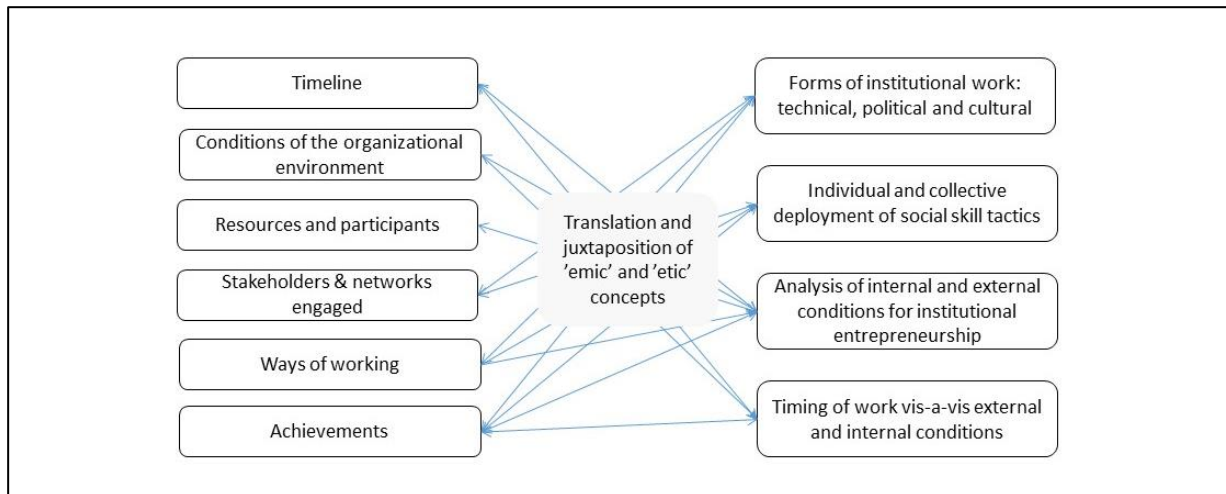


Figure 2. Comparison and juxtaposition of practitioner viewpoints with propositions from the literature

The third stage entailed reflection on the value of the concepts for the individuals and organizations involved. This drew on data both from the focus group discussions and the follow-up interviews. Here, drawing on Shani et al. (2012) we sought to identify how the concepts helped to render different forms of work more or less legitimate, and how these concepts might be put into practice in the organizations. We again juxtaposed and interrogated the participants' suggestions with the literature on how organizational form and capabilities might support institutional entrepreneurship (Levy and Scully 2007).

The analysis, including the "stories", was finally validated by participants. This was done by sending a draft version of the entire article to the participants interviewed in the first follow-up round, to which we got email responses saying those participants agreed, and they were also discussed during the first follow-up interviews. The interviewees agreed on the stories, though some wanted to further elaborate on some of the (organizational) environmental conditions supporting or hindering their change process.

4. Findings: Stories and Analysis of Institutional Entrepreneurship for Sustainable Energy

In the following, we first (section 4.1.) tell the stories of the institutional entrepreneurs, focusing on *what* they have done. We then (section 4.2) go on to discuss *how* the concepts from the institutional entrepreneurship were perceived of as helpful for the group in understanding its own story, and what insights were drawn for organizational development.

4.1 The stories of the institutional entrepreneurs

Sitra: Making room for distributed energy production. A program called *Self-Produced Energy* was selected as a successful case of institutional entrepreneurship because of its radical and disruptive nature. In this program, Sitra had challenged entrenched beliefs in Finnish society, for example the belief that “big is beautiful” in energy production, as well as entrenched interests embodied in the powerful complex of the energy industry, other large industries, and the Ministry of Employment and Economy (MEE).

Like all Sitra’s program, *Self-Produced Energy* was a temporally bounded initiative aiming to accelerate the transformation of the Finnish energy system. It emerged fairly late in the course of the four-year energy program, when Sitra discovered that Finland was lagging behind other European countries in distributed renewable energy production and support for citizens as producers of solar power. Sitra had gained hands-on experience on the viability of existing PV technology through a model construction of a net-zero energy building (a building that produced as much energy with PV as it consumed on an annual basis). Hence, the team deemed the time ripe for an effort to accelerate the roll-out of distributed renewable energy, such as solar and wind power.

In the Finnish context, this was a formidable task. Finland was (and remains) the only European country that offers no financial support for household-scale solar power production and where the expert community was for decades skeptical of solar power. The country’s energy policy had been tardy in acknowledging the worldwide breakthrough of solar power. Because of this, several barriers that had been removed in other countries (such as difficulties in permitting, grid connections and the lack of guaranteed markets – to say nothing of subsidized prices - for local solar power) persisted in Finland. For example, even the 2011 introduction of a feed-in-tariff for renewable energy excluded micro-scale solar and other renewable energy installations.

It was in this unfriendly environment that the Self-Produced Energy Programme was launched. The stated aims were to (1) Improve collaboration among actors involved in small-scale renewable energy production by creating a common brand and bargaining power (2) Facilitate citizen energy production in terms of grid connections, permitting, services and cost-effectiveness and (3) Make renewable

energy an acceptable part of the living environment by supporting a shift from a NIMBY (not-in-my-backyard) to a YIMBY (yes-in-my-back-yard) attitude through participatory decision-making and models for distributing benefits within the community. In this sense, the programme was clearly more political and less technocratic than a conventional energy programme.

The program was conducted in a highly networked and interactive way within less than three years. The team analysed citizen opinion and barriers to renewable energy production and brought together the fragmented community of renewable energy enthusiasts. They used blogs, platforms, social media and workshops to both convene and shape the interests of the emerging small-scale renewable energy community, which grew through ‘snowballing’ and events to entice new people into the community. Networks were particularly important to get the technical experts in small-scale renewable energy and the local innovators and energy prosumers on board, and these people actually offered technical solutions to problems. Hence, this process was not only about mobilizing the community, but simultaneously about fact-finding, the development and diffusion of a shared terminology, and the analysis of problems alongside a search for potential solutions. Experimentation is an important buzzword in Sitra, and the team used experiments in many ways: organizing joint purchasing of solar panels, design of a turnkey service, and a shared web platform for community energy projects and crowdsourced investment. Sitra also engaged in piloting new services and making venture capital investments, i.e., tools that are distinctive of Sitra’s mode of operation (*reference removed for review*). Moreover, resources were devoted to influencing public opinion, MPs, and key power holders such as the Finnish Energy Industry and the MEE.

As a result, several changes in the field were accomplished. One of the great battles and victories was the facilitation of grid connections, which had previously been legally possible but technically difficult due to idiosyncratic national standards for inverters (i.e, the technical interface linking solar panels to the distribution grid). The opening up of the standard for imported inverters was the result of significant lobbying vis-à-vis the Finnish Energy Industries and the MEE. Another victory was the creation of a simple and user-friendly form for customers to fill in when they wanted their equipment connected to the grid. This form was also expected to soften attitudes among distribution grid operators, since Sitra funded a related project by the Finnish Energy Industries to train the grid operators to support prosumer grid connections – and thus perhaps finally take consumers seriously as energy producers. Sitra also managed to get ten action points on distributed energy into the *Government’s Energy and Climate Strategy*, and the development of services for small-scale energy onto the agenda of the main technology funding body, Tekes. Three working groups in government bodies were set up to promote small-scale energy production. Last but not least, the mobilization of

the fragmented and marginalized business community dealing with distributed energy culminated in the establishment of a new industry association, the Finnish Local Renewable Energy Association.

While the small team working on this at Sitra celebrated their victories, they felt they had won the battle but not the war. After Sitra stopped pushing, most government working groups quietly finished their work without visible results. No financial support for citizen PV materialized (e.g. feed-in-tariffs or net metering systems available in other countries), and there were still no dedicated financial services for small-scale renewable investments. Permitting processes for wind power were still laborious and community-owned projects were rare. The time available had been too short for fundamental change. Still, some of the team felt they had crossed a critical threshold and that things would move forward on their own momentum.

Motiva: Institutionalization of energy audits in Finland. The Energy Audit Programme was selected by the CEO of Motiva as a success story because it entailed the creation of a new institution that enjoyed significant buy-in and participation by Finnish companies and municipalities. The program is governed by the MEE and operated by Motiva. At the time of the study, about 80% of industrial, tertiary and municipal buildings had been energy audited. The program is considered an exemplar in Europe due to its wide voluntary support, credibility, standardization and monitoring. The current achievements are the result of 20 years of dedicated work, which has been emblematic for the entire identity of Motiva.

Energy audits are one way to address the “energy efficiency gap”, i.e., the significant energy efficiency potential that is not realized because individuals, organizations and society under-invest in energy efficiency (Geller and Attali 2005). Energy audits aim to remove barriers to such investment through systematic analysis and valuation of the energy efficiency potential in a given facility and recommendations for cost-effective energy efficiency measures. Yet, without a standardized format, audits initially suffered from a credibility gap that impeded investors from capturing the “low-hanging fruit” of cost-effective energy efficiency investments.

Energy audits had been around since the energy crisis. In Finland, the MEE (then Ministry of Trade and Industry) had supported energy audits since the early 1980s with variable success. Interest in energy audits waned in the late 1980s as energy prices declined and the economy rebounded from the recession. When Motiva, then established as an energy efficiency project supported by the Ministry, developed its first standard audit model and launched a training and accreditation program for auditors, industry interest grew and companies started to have their facilities energy audited. This occurred at an opportune time, in the early 1990s, when Finland was in deep recession, and many engineering companies suffered from a lack of their usual business. It was not until the Ministry of

Trade and Industry launched a voluntary energy agreements program in 1997 (with commitments by signatories to conduct audits and make improvements, and commitments by the ministry to subsidize the audit costs) that energy auditing took off on a large scale. In the ensuing years, both the energy auditing program and the voluntary agreements program grew with the addition of new audit models tailored to the specifics of particular industries and operations.

The audit program was organized to be compatible with the close networks characteristic of Finnish business and the engineering community. Audit models were developed in co-operation with energy engineering companies, piloted and improved before they were finalized. Feedback was collected from “audit users”, i.e., companies in which audits were conducted. Credibility was gained through training and qualification of auditors, and the development of a central monitoring system of audit results. The state subsidies supported this registering of energy audit reports, since subsidies were paid out after submission of the report. Hence, Motiva was able to monitor quality and compile results on an annual basis, as well as take action and disaccredit auditors that failed to comply with the requirements of the scheme.

The energy audit scheme had at the time of study been running for two decades. During this time, it had expanded from a simple focus on the energy efficiency in buildings to several industrial processes, transport logistics and renewable energy deployment. The energy audit program has resulted in significant investments in energy efficiency, which were estimated as reducing total energy consumption in Finland by about 3 TWh per year (Ministry of Employment and Economy 2011), i.e., almost 1% of total energy consumption. This success had encouraged Motiva to apply the concept to the promotion of materials efficiency in industry, where a similar audit scheme has been established.

4.2 Legitimate and illegitimate political work

The stories presented above reflect institutional entrepreneurship in changing the rules of the energy system by disrupting existing practices or creating new institutions to address systemic problems. Yet until the study, the participants had not perceived themselves as institutional entrepreneurs, even though they immediately identified with the notion, albeit though they preferring the term “change agents”. In the following, we focus on political work (one category of institutional work) which we found to be poorly articulated and not quite legitimate in our case organizations at the outset.

In the Motiva group, political work was discussed most through the concept of social skill, which they perceived as a concept that was both novel and familiar. It was first linked to the capabilities in managing social interaction resulting from long-term relationships between people:

That's very important when we do these new things with companies ... how to read the game. Especially when you have competitors around the table, to be able to manage the discussion and to know, well, you can't go in this direction, but maybe you can go in that direction. It is sort of easy, since you have years of history of working with them.

The discussant offering the comment above interpreted social skill as a “naturally occurring” personal characteristic embedded in a history of personal relationships. She emphasized the embodied nature of social skill and the effort and risk of personal reputation that it may require (see Lawrence et al. 2009). In contrast, another discussant felt that social skill strategies were conscious practices of the organization. Here, social skill presented itself as operating on a tactical level of personal interaction, but gaining leverage when combined with a strategic analysis of the opportunity environment.

The Sitra discussants also recognized that political work was something they actually engaged in, even though they had not recognized it as such, or viewed its different elements as being interconnected. Indeed, the notion of political work served to ennoble some of the back-breaking efforts around “little things”. For example, the Sitra team had spent a lot of time workshopping with allies, rather than promoting their own solution (much in the way of Dorado's, 1995, ‘convening’), i.e., putting political work in first position. Furthermore, they pointed out that they had also involved allies in the technical work of prioritizing the plethora of problems hindering the development of small-scale renewable energy. An example was taken from one of the small victories, the development of a user-friendly standard form for small scale energy producers to gain connection to the grid, where technical work concerning the content and organization of the form was interspersed with cultural considerations about legitimacy vis-à-vis grid operators and their customers, and political work to engage grid operators in the process.

However, not all forms of political work were seen as legitimate. Some of the discussants from Sitra took issue with the idea that political work might involve such practices as bargaining alongside the development of genuine commitment among allies. They were upset by an example we presented from Wijen and Ansari (2007), where bargaining was used in the Kyoto protocol negotiations to “buy” Russia's signature by promising more favorable terms for WTO accession. The discussants admitted that bargaining does occur in energy policy making, but they felt it “might not be sustainable” in the long term. Their own initiative had aimed to create commitment to common goals by aggregating the interests of the fragmented players in the field and establishing a broader community of practice (Lawrence and Suddaby 2006), rather than to buying allies with ulterior incentives. They thus suggested that some forms of political work might only be relevant for “end games” rather than for organizations promoting change as a going concern. However, there was a lot of debate in the Sitra

team about political work vis-à-vis energy incumbents. One discussant exclaimed that they had not made “a proper lobbying campaign”, implying that they had not devoted sufficient attention to disrupting existing belief systems among the ruling elite. The others concurred that they had worked in a “nice and polite fashion” (some felt, even too polite) toward parties identified as counterforces to the change they wanted to promote:

We have organized lunches and invited them to private meetings, because we are privileged to be able to do that. Which isn't about money but about assembling people around a table. In the case of this recommendation paper [concerning support to small scale energy production], it was very concretely about sending a lunch invitation to X, Y and Z and then, sort of, presenting our views and [suggesting] wouldn't it be nice if we could present a common proposal. And then when everyone is nodding, hey presto, we have a common proposal. ... it involves elements of making others feel they are in control and acting as a disinterested broker and aggregating interests.

Some discussants interjected that the outcome of this process, the recommendation paper, had taken ages to finalize and had not eventually included game-changing proposals. Rather than explicitly focusing on institutional disruption (Lawrence and Suddaby 2006), the way of working followed the organization's institutionally embedded mode of operating as a change-promoting part of the elite.

Given the many frustrations of trying to change the energy system, our reason to engage practitioners was to see whether they could gain insights that help them “work smarter”, i.e., enhance their capacity to do political work. As a result of our intervention, political work did become more explicit – and in part, more legitimate. This is visible in comments where political skills, means, ends, strategies and tactics were seen as deserving more explicit reflection, including criticism (Table 2). Moreover, the process appeared to have made room for fundamental reflection on the organizations' positioning, as well as their institutionalized capacities and incapacities. The last comment in Table 2 illustrates the insight that concepts from institutional entrepreneurship literature can also challenge organizations (or at least some people working in them) to reflect on the institutionally embedded capabilities and moral orders that bind organizations to particular modes of operating (Selznick (1996, 271).

Table 2. Illustrative quotes of how political aspects of institutional change gained legitimacy

Development of social skill alongside technical expertise	<i>Some people have a natural skill, but we try to develop people's [our staff's] capacity. So if we want to promote something, but we show up with a nice neat package, then our customers will say "not now" and "not interested". We need to develop the capacity to plant seeds, listen and put aside our own expertise, rather than teach people!</i>
Analytical approach to institutional change	<i>We could also think about this: we easily jump into the action and start doing and promoting things. But certainly, at some point, it would be good to analytically examine our strategies and the best thing would be if all our programme plans could be conceptualized on this level [systematic analysis of types of institutional work and their timing].</i>
Reflection on the political and institutional positioning of the organization	<i>We should think more about what we are, what we want to be, and if what we are isn't what we want to be, how we could get there. And we do reflect on our role ... and have different views. Some people think we should be careful and not commit too much to one particular agenda to avoid bias, and then there are others who think it wouldn't really hurt if we did.</i>
Reflection on appropriate means to ends	<i>I am also a bit critical. We spent a lot of time workshopping and engaging partners That's the organization's standard practice ... And bargaining is not an acceptable practice, there are certain ways of doing things.</i>

4.3 Aligning opportunity recognition with everyday social skill tactics: a game of luck or chance?

It was easy for our practitioners to recognize the notion that opportunities for change depend on structural and temporal field conditions. The group discussions also revealed that this aspect of change initiatives had not been previously analysed collectively. Insights from the literature on opportunity structures of institutional environments (Dorado 2005, Beckett 2010; Buhr 2012) served to invoke re-analysis of the focal stories presented above, but also discussion on other stories or potential scenarios for the future. The Motiva team agreed that they had benefited from favorable organizational environmental conditions in the golden early days of their energy audit scheme. The notion of "windows of opportunity" also inspired participants to think of ongoing projects and whether the time was ripe for them. However, the notion of opportunity-rich environments and moments was more apparent to them with reference to unsuccessful projects, where similar "sensible" ideas, such as the development of an environmental classification scheme for buildings in the 1990s (like today's BREEAM and LEED green building certificates) had not been successful at the time.

Wasn't it so, [name of colleague], that we did a lot of hard work to promote classification schemes for green buildings? ... It was something for which the time wasn't ripe, it didn't take off. ... and then a few years later, maybe 4-5 years, all these international classification schemes emerged, which were almost the same.

For Sitra, the categorizations of opportunity structures of institutional environments evoked a discussion on whether the current energy system is in crisis or not, suggesting that participants did not share a common understanding of the opportunity structure of the field and had not discussed it before. They concluded that climate change was self-evidently a crisis, but one which had turned into a permanent condition failing to engender a sense of urgency. They agreed that if there were an overall high level of crisis consciousness, rapid change would be easier. The notion of “windows of opportunity” generated, among others, the following reflection:

What might change the field? I am thinking of electricity storage, if there were a revolution in that area. It will come, but when? If households could store the electricity they need, for example, for three months ahead, then that would really be a game-changer, and the old system would just disintegrate.

Proponents of alternative institutional arrangements need to be organized and stay organized until a window of opportunity arises from the confluence of different streams (Buhr 2012). The stories of our case organizations show how they have attempted to capture such opportunities in an emergent fashion (Lawrence and Phillips 2004). Perfect timing is likely to be beyond the active and strategic agency of institutional entrepreneurs working from a challenger position, as the quote above concerning electricity storage shows. Problem awareness can be monitored and allies can be mobilized proactively, yet whether they can stay organized long enough for a political opportunity to arise may in the end be a matter of luck. However, the discussants tended to believe that it is possible to develop a better (if not perfect) orientation toward “windows of opportunity”. This was mostly along the lines of emergent, contingent and reactive strategy (Lawrence and Phillips 2004).

A recurring topic in the discussions and interviews was how the teams (and their wider organizations) combined interpretations of field conditions, tactical moves, and social skill in the seemingly disparate domains of organizational strategy (a formal matter in government-affiliated organizations) and everyday social skill tactics on the ground. Even though organizational structures did not often support the above-mentioned ‘guerilla-style’ approach to institutional change, our participants had *occasionally* found ways to align grand strategizing and everyday tactics. This was more the case in Sitra, organized through project-based fixed-term teams, where on the other hand, the risks of “missed timing” were accentuated, since opportunity-rich events might occur after the project had disbanded. An organization working on the same topics, like Motiva, might have greater opportunities to capture temporal opportunities that unfold over a long time span, but over decades, organizations tend to institutionalize (Selznick 1996), and would require periodic disruption to enable the small entrepreneurial team to re-emerge. Indeed, this was ongoing in Motiva as our fieldwork ended.

While several insights were gained, it was not always clear to participants how their organization might improve its capacity for aligning everyday social skill tactics with grand strategizing. In Sitra, there had been an attempt to develop a checklist (on the basis of the presentation at the group discussion) for more analytical strategy development, enabling reflection on different types of work and the temporal opportunities for institutional change, but this had not penetrated into the formal strategy process. In Motiva, the introduction of cross-functional ‘flat’ teams was seen as a way to align opportunity recognition with everyday tactical work with customers and stakeholders.

Several participants felt that reflective sessions, organized around case histories of past success and failure, would offer possibilities for the organization to learn. Indeed, our group discussion suggested that, in particular, recognition of temporal opportunity structures can benefit from an analysis of several cases, including failed ones, since opportune timing easily becomes ‘invisible’ in successful cases. Interestingly, people from both organizations suggested that such reflection should preferably be done together with outsiders.

Our participants’ suggestions, initiatives (and the few measures taken) suggest that it might not be easy to institutionalize the capacity for institutional change within organizations. Many of the suggestions made concerned individuals and teams, rather than the organization as a whole. These included selecting people and teams with the right skill sets, mentoring and exchange of experience between veterans and novices, and ensuring a tight link between grand strategizing and work on the ground. Interestingly, here also organizational boundaries were viewed as permeable, as one discussant suggested that Sitra represents just one node in a learning process, where people working on short-term contracts in its projects gain experience, which they carry to other organizations. Based on the case organizations’ experience and interpretations, institutional entrepreneurship for sustainable energy is more readily understood as a flexible capability of small groups, which may even span over organizational boundaries to combine skill (rather than planning) with serendipity (Lawrence and Phillips 2004).

5. Discussion and limitations

The primary purpose of the institutional entrepreneurship literature is not to support practitioners, but to inform sociological analysis of how institutionally embedded agents accomplish change. However, our research aimed to find out whether the institutional entrepreneurship literature could challenge practitioners’ understandings of institutional change and help institutional entrepreneurs promoting sustainable energy to make sense of lived experience (Lawrence and Dover 2010) and

whether such an encounter with the literature gives rise to any new ideas about how to organize institutional sustainable energy entrepreneurship.

5.1 Contribution to practice: Do conceptualizations of agency in institutional change help practitioners understand the political aspects of their work?

Our analysis suggests that some practitioners, dedicated to promoting a more sustainable energy system, could benefit from institutional entrepreneurship scholarship. They might use it to develop a more political understanding of their (informal and unrecognized) ways of working and of the opportunities for change afforded by the temporal characteristics of the institutional environment. When practitioners recognize their implicit competencies in these terms, institutional work can gain a legitimate position alongside more technocratic expert work, for example, in recruiting and personnel development, in the way in which change initiatives are organized, and in organizational learning and development. Moreover, when the political aspects of institutional work become explicit, practitioners can also reflect on the relationships between appropriate ends and means, and potentially pick their battles to fit the means they are able to wield.

We found the concepts of institutional work and temporal opportunity recognition to be easily recognizable to the participants, but discovered that they had not collectively or systematically discussed these issues before. The novelty of the institutional entrepreneurship framework for the participating organizations was the drawing of previously unconnected aspects of organizational strategizing and everyday social skill tactics into the same framework. Organizations do not necessarily have arenas devoted to such work, which would require the ongoing involvement of staff working on the ground in environmental scanning and strategizing. In our cases of promoting a more sustainable energy system, we are doubtful whether any organization working to change the energy system could be completely cognizant of the temporal conditions for change (cf. Buhr 2012) and capable of having everything in place when the time is right, considering the complex interrelations of global and national markets (Silvast, 2017), the large number of policies and technological developments (Kern et al., 2017), as well as the diversity of potential allies and opponents. Nonetheless, our practitioners felt that social skill and environmental scanning could be better combined within their organizations, and had several suggestions for how this could be done.

5.2 Theoretical challenges: Do insights from collaboration with practitioners contribute to the conceptualization of agency in institutional change?

Our findings present some theoretical challenges to the conceptualization of institutional entrepreneurship. The literature is somewhat obscure about whether institutional entrepreneurship is a characteristic of individuals or organizations (Levy and Scully 2007; Battiliana et al. 2012), and on whether the capturing of temporal opportunities is an issue of skill or luck, given the focus on successful cases. While the collective-action aspects of institutional entrepreneurship are emphasized (e.g. Hargrave and Van de Ven 2006; Levy and Scully 2007; Jolly et al. 2016), there is less attention to the structures and organizational institutionalization of key characteristics of institutional entrepreneurship (such as social skill). Our research extends the concept of social skill from the somewhat individual-centric and tactical representations of the institutional entrepreneurship literature. Fligstein's (1997; 2008) concept of social skill as a central resource for challengers is widely referenced in the literature, but not conceptualized as a characteristic of organizations. Levy and Scully (2007) have suggested that collective social skill might entail coordination across far-reaching analyses of field structures, an agile creative construction of alliances, and responsiveness to changes. More concretely, our analysis suggests that such capabilities might be cultivated through official recognition of organization members' personal networks and embeddedness in a field, through mentoring and collective reflection on past experience (in particular, failures), through organizing in the form of cross-functional flat teams, as well as through joint reflection on experience with people outside the organization (cf. Canzler et al. 2017). This suggests that organizations can cultivate the capacity for institutional entrepreneurship. Further research might investigate whether such practices consistently predict success by *organizations* aiming to change institutional arrangements.

Our research also contributes an insider perspective on the moral aspects of institutional entrepreneurship. The institutional entrepreneurship literature, since it focuses mainly on successful cases, does not explicitly highlight the constraints on entrepreneurship placed by organizations' institutionalized moral orders. In our case, government-affiliated organizations were not willing or capable to engage in "end-game" tactics like bargaining, due to their bridging role of aligning diverse interests in society, whereas this kind of tactic might be compatible with the moral order prevailing in a single-focus NGO or a political party. This insight has implications for authors pursuing institutional entrepreneurship as a way for mission-driven organizations to address grand challenges (Ferraro et al. 2015): particular organizations might be enabled or constrained by their overall mission to wield particular forms of institutional entrepreneurship.

5.3 Limitations

There are certain limitations to the research design. The fact that people benefited from analysing their own experiences from a fresh perspective does not prove that the institutional entrepreneurship literature was uniquely enlightening. Some other type of literature might have been equally helpful (though we realized that the participating organizations were more familiar with, e.g., the more normative energy policy and transitions literatures than with the concept of institutional entrepreneurship). There are also limitations in engaging practitioners in an analysis of institutional entrepreneurship strategies and tactics, given that people might not want to reveal strategies and tactics that are not completely legitimate. The use of group discussions as data sources also has its drawbacks in terms of social dynamics and limited time for each participant, potentially resulting in less reflection. Moreover, we were only able to engage a part of the organization for a bounded period. Our intervention was thus explorative rather than part of an organizational development effort. While we have continual close contacts with the organizations, we have no access to core strategy processes. Hence, the collaborative effort can be characterized as collaboration with the groups involved, rather than the full senior management (Shani et al. 2012). Even so, this type of process is likely to require close relationships of trust between academics and practitioners, which places limitations on the general applicability of such collaborative inquiry processes.

Certain limitations pertain to the research context. Appropriate combinations of institutional work and political tactics are likely to depend on the position of the entrepreneurs (Lawrence and Suddaby 2006). Sustainable energy promotion by government-affiliated organizations is likely to represent a particularly consensual kind of institutional entrepreneurship, due to the bridging role of government organizations in the energy field, which is both a market and an issue field (Zietsma 2017). Moreover, our organizations are from a country characterized by a consensual political culture (Lijphart 1999), which might be why some of our discussants voiced concerns about some forms of political work. Further research might explore similar work by NGOs or temporally bound campaigns, and in different political cultures, to challenge, extend or complement our findings.

6. Conclusions

We have focused on institutional entrepreneurship in the energy field, which is highly path dependent, structured and dominated by hegemonic incumbents, yet challenged from many directions: by rapid technological change reducing the cost of renewables and energy efficiency solutions, by new entrants, social movements and by (more or less) determined climate policy in different countries. Institutional

change is created by these different forces, as well as by purposive actions by people in companies producing sustainable energy products and services, in established industries, in NGOs, think tanks, academia and consultancies. The change is global in nature, but proceeds at different paces in different national contexts. Government-affiliated organizations promoting sustainable energy are players in this field, attempting to actively shape national institutions in order to support the forces of change and disrupt forces obstructing change. Yet since they are institutionally embedded, they often frame and organize their work in terms drawn from incumbent institutions, devoting less attention to the political (Kuzemo 2014) and cultural nature of change in the energy system (Lutzenhiser 2014).

This study explored the usefulness of insights from the institutional entrepreneurship literature for highlighting the political nature of the work of organizations promoting energy systems change. Through this, we aimed to empirically explore proposals that institutional entrepreneurship might support practical efforts toward positive social change (Ferraro et al. 2015). We did so through collaborative inquiry with two government-affiliated organizations whose experiences were articulated through the concepts of institutional entrepreneurship.

Several other literatures have explored institutional and technological change in the energy sector: for example, innovation systems, sociotechnical transitions, path dependence and path creation, and policy innovation and governance (Sovacool 2014; Araújo 2014). Greater engagement with these literatures might be equally valuable for practitioners, though many of them have outlined practical policy implications and are more familiar among government organizations (Heiskanen et al. 2009 Voß 2014). Our study indicates that the unique value of engaging with the concept of institutional entrepreneurship was to show that initiatives to change the institutional conditions of the energy field require somewhat different skills than business-as-usual policy development and implementation, and therefore require breaking the path dependencies both external and internal to the organisations taking on institutional entrepreneurship roles. The participating organizations had these skills, but they were under-appreciated in the organizations. In our case studies, institutional work served to mobilize allies, to create common understandings of new system configurations, and to create legitimizing narratives of new institutional arrangements such as distributed energy systems. However, practitioners in this field (in their challenger position) struggled to continually scan and capture the “windows of opportunity” created by the complex and multiscale temporal conditions for change (Fligsten & McAdam 2012; Buhr 2012) prevalent in a global energy system characterized by rapid but punctuated and unpredictable technological and political change (Sovacool 2016).

Engagement with practitioners based on the institutional entrepreneurship literature opened up space for new conversations on the institutional work required to create a new energy system, and on the

potentially collective nature of social skill. Practitioners envisaged that political work might gain a stronger position, alongside other forms of institutional work, through increased reflection on past success and failure, among veterans and novices, and together with outsiders. They also recognized the need for a stronger link between environmental scanning, grand strategizing and everyday tactics (Levy and Scully 2007), through a more guerilla-style (i.e., flexible, flat, action-oriented) organization ensuring that strategy development is aligned with work 'on the ground'.

While an alignment of grand strategy and everyday tactics might sound self-evident, it is not so in real-life organizations or mainstream business books, in Finland or elsewhere. Opportunity recognition and the deployment of social skill in dealing with allies and opponents are often seen as separate processes in the management literature (Maula et al. 2013; Rutigliano et al. 2017), and policy development and implementation are separated in the policy literature (Luzenhiser 2014). Moreover, few practical management guides offer useful insight on timing (except for Albert 2013). Hence, there remains work in translating institutional entrepreneurship theory into practical management advice for promoting sustainable energy. Ideally, this management advice should engage sustainable energy practitioners alongside academics in order for it to be actionable, since different organizations' moral orders allow for different forms of institutional entrepreneurship.

For energy scholars investigating change on a grand scale, the implications of this research are to draw attention to the capabilities of organizations working – seemingly – in practical policy development and implementation. Energy policy change can – and needs to be – explained via large-scale historical forces (Rodríguez-Morales 2018), but these forces often require work in order to be aligned and mobilized through timely action (Buhr 2012; Jolly et al. 2016). Analysis of successful and failed transitions might thus devote greater attention to the role of institutional entrepreneurship by pivotal organizations or groups flexibly combining institutional work, social skill and environmental scanning. Our analysis further shows that while some organizations may have these capabilities naturally and implicitly, they can also be facilitated, cultivated and made explicit. This has practical implications for the types of organizational forms and capabilities that policymakers, academics and higher education institutions aiming for sustainable energy change should cultivate. Our study is unique as it pertains to a particular country and particular organizations, but it suggests there is promise for further exploration of the practical application of institutional entrepreneurship concepts for sustainable energy change elsewhere.

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Annex 1: Research instruments and materials used in the research process

Outline of initial interview questions

- 1) Introduction to the project: academic interest and potential benefits for the organization
- 2) Plan for data collection, estimate of time allocation needed from organization
- 3) Suggestions and discussion about change project to select, arguments for selection
- 4) Aim and context, process and success criteria of selected project
- 5) Identification of relevant participants and materials

Outline of discussion points and slides from focus group discussions

- 1) Story of local energy/energy audits + feedback on initial draft
- 2) Concepts from institutional entrepreneurship (definition, contextualization, examples from the literature, e.g. Etzion and Ferraro 2006)
- 3) Forms of institutional work: technical, political and cultural (Perkmann & Spicer 2008) examples (e.g. Tracey et al., 2011; Wijen and Ansari 2007; Levy & Scully 2007)
- 4) Social skill: concept, selection of tactics for unstructured and structured fields (Fligstein 1997; 2008)
- 5) Opportunity structures of institutional fields: types of fields (Dorado 2005); crises (Hoffman 1999) field configuring events (Hardy & McGuire 2010)
- 6) Timing & opportunity structures (Fligstein & McAdam 2012; Buhr 2012)
- 7) Reflection points: usefulness of concepts, roles of different types of institutional work, role of social skill, understanding the structure and temporal development of opportunities in the institutional environment

Outline of questions, 1st feedback interviews

- 1) Reflection on the 'story' of the change project, any new thoughts and directions?
- 2) Concepts from the institutional entrepreneurship literature, what did you retain? Was anything important missing?
- 3) Recapitulation of key points, have any of these been pursued further in your group/organization? Could they support your future work in any additional ways?
- 4) What has happened since the group discussion in terms of organizing for change agency?

Outline of questions, 2nd feedback interviews

- 1) Your organization's work as a change agent today: strengths and weaknesses
- 2) How is your work as a change agent reflected in your organizational structure and processes (review through institutional entrepreneurship concepts), and how has it changed over the years?
- 3) Reflections on the group discussion and institutional entrepreneurship concepts introduced: were they helpful in any way?
- 4) How is capacity for political work shared within the organization and how could it be shared?
- 5) How is capacity for political work institutionalized in the organization?
- 6) If a key concept is the combination of strategic analysis of the institutional environment with everyday social skill tactics, what alternative ways do you see for organizing for such work? Have any of these been taken into use?
- 7) Are there internal and/or external barriers to organizing in these ways?